

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION**

ATTACHMENT F

FACT SHEET

**ORDER NO. R9-2005-0007
NPDES PERMIT NO. CA0107450**

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ATTACHMENT F
FACT SHEET
FOR
WASTE DISCHARGE REQUIREMENTS
ORDER NO. R9-2005-0007
NPDES NO. CA0107450

As described in Section II.L of the Order, this Fact Sheet includes the specific legal requirements and detailed rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

Culligan Water Conditioning of La Jolla, Inc. (hereinafter Discharger) is the owner and operator of Culligan Water Conditioning of La Jolla (hereinafter Facility), a potable water softening facility, located at 970 Turquoise Street, San Diego, California. The Facility discharges water softener regeneration brine and backwash wastewater to the Pacific Ocean, a water of the United States, via a storm drain, and is currently regulated by Order No. 2000-15, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107450, that expires on February 9, 2005. The following table summarizes administrative information related to the facility

Discharger	Culligan Water Conditioning of La Jolla, Inc.
Name of Facility	Culligan Water Conditioning of La Jolla, Inc.
Facility Address	970 Turquoise Street
	San Diego, CA 92109
Facility Contact and Phone	Grant Boroff, (858) 488-8373
Mailing Address	970 Turquoise Street, San Diego, CA 92109
Type of Facility	Industrial, SIC # 5149

On August 12, 2004, the Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES Permit. Supplemental information was requested on September 23, 2004 and received on October 13, 2004.

II. FACILITY DESCRIPTION

The Discharger owns and operates a potable water softening facility located at 970 Turquoise Street, San Diego, California. Sodium-based water softening is based on ion exchange. The calcium and magnesium ions in hard water are replaced with sodium ions, resulting in soft water. This is typically achieved by passing hard water through a sodium ion based resin (ion exchanger). The displaced calcium and magnesium ions are retained on the resin, while the sodium ion previously attached to the resin is discharged in the effluent as sodium chloride. The resin will only continue to soften water until the sodium ions are depleted (having been replaced by calcium and magnesium ions). At this point the resin must be regenerated in order to soften water again. Regeneration typically requires the backwash of the resin vessels and a brine (water containing sodium chloride) rinse to replace the calcium and magnesium ions with sodium ions again. The

remaining brine plus calcium and magnesium ions are discharged with the backwash water as calcium chloride and magnesium chloride and are replaced on the exchange media with calcium ions.

A. Description of Wastewater Treatment or Controls

The Discharger provides water softening systems for home or commercial use. The system consists of softening resin beads contained in steel cylinders. Once the resin beads are spent, the cylinders are returned to the facility for regeneration of the resin beads. Municipal potable water is used as source water for the regeneration process. The regeneration process consists of three steps: a cylinder flush; an ion exchange resin regeneration; and a resin flush. The process produces about 3,000 gallons per day (GPD) of wastewater that is discharged to the municipal storm drain system and then to the Pacific Ocean. The wastewater discharge is made up of resin- regeneration process water brine and resin-vessel backwash wastewaters. The Discharger also states that the only treatment of its wastewater is through a solids sump and screen.

Data submitted to the Regional Board in the Discharge Monitoring Reports (DMRs) required by Monitoring and Reporting Program No. 2000-15 for July 1999 through June 2004 indicated a maximum reported discharge flow of 3,000 gallons per day (gpd). The Discharger has not requested an increased discharge flow. The discharge occurs once a day for approximately three hours and occurs five days per week.

B. Discharge Points and Receiving Waters

The Discharger discharges up to 3,000 gpd of water softener regeneration brine and backwash water to the Pacific Ocean through a city-owned storm drain terminating immediately north of Tourmaline Surfing Park in San Diego (32 degrees 47 minutes 43 seconds north latitude and 117 degrees 17 minutes 20 seconds west longitude). The discharge into the Pacific Ocean is approximately ½ mile (2600 feet) from the facility. The Culligan facility and storm drain are in the Scripps Hydrologic Area (HA) (906.30) of the Penasquitos Hydrologic Unit (HU) (906.00) just north of Tourmaline Surfing Park. The ocean discharge point is about 4.3 miles south of the southern boundary of the La Jolla Ecological Reserve.

C. Summary of Report of Waste Discharge (RWD)

The NPDES permit renewal application requests a discharge flow rate of up to 3,000 gpd of resin regeneration process water brine and resin-vessel backwash wastewater. The Discharger states in the NPDES permit renewal application that the regeneration process source water is municipal water and the discharge contains concentrated sodium chloride, calcium chloride, and magnesium chloride ions in solution. All other discharge constituents have been reported as believed absent by the Discharger in the Report of Waste Discharge. The discharge is not expected to contain significant concentrations of bacteria and organic matter and, therefore, is not likely to contribute to the either bacterial or organic matter impairment of the receiving water body. Furthermore, this permit does not provide for the discharge of detectable levels of bacteria that would contribute to the impairment of the receiving water body.

D. Compliance Summary

Effluent limitations contained in the existing Order for Outfall 001 and representative monitoring data submitted in DMRs for the period of July 1999 through June 2004 are as follows:

Table II.D

Constituent	Units	Monitoring Data July 1999-June 2004	Effluent Limitations	
			Monthly Average ¹	Instantaneous Maximum ²
Settleable Solids	MI/l	<0.1 ³	1.0	3.0
Total Suspended Solids	mg/L	<1.0 – 18.5	20.0	30.0
	lbs/day	NR	0.50	0.75
Oil and Grease	mg/L	<0.2 – 7.2	25.0	75.0
	lbs/day		NR	NR
pH	standard units	7.01 – 9.17		6.0 – 9.0 ⁴
Conductivity	µmhos/cm	281 – 309,600	NLA	NLA
Turbidity	NTU	0.1 – 2.4	75.0	225.0
Acute Toxicity	TUa	NR	1.5	2.5

Note: NR = Not Reported

NLA = No Limit Applicable

¹ Applicable to the arithmetic mean, using the results of analyses of all samples collected during any 30 consecutive calendar day period.

² Applicable to a single grab sample or a single composite sample collected over a period of 24 hours.

³ The Discharger reported <0.1 ml/l for all settleable solids samples.

⁴ The effluent results shall stay in this range at all times.

Based on a review of available effluent monitoring data, the Discharger has exceeded the effluent limitations for pH on two occasions. The results for pH for samples collected on June 21, 2002 and May 22, 2003 were 9.11 standard units and 9.17 standard units, respectively. These results are not within the established effluent limitation (Not less than 6.0 nor greater than 9.0).

As part of the application, the Discharger has not submitted the acute toxicity monitoring data as required by Order No. 2000-15. The discharger is required to submit acute toxicity data as soon as it is available. The toxicity data will be reviewed and evaluated once it is received.

E. Planned Changes (Not Applicable)

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) that implements regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit for point source discharges from this Facility to a surface water of the United States. This Order establishes Waste Discharge Requirements pursuant to Article 4, Chapter 4 of the CWC for discharges that are subject to regulation under CWA section 402.

The State of California adopted the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) into the California Water Code, Division 7 with the most recent amendments becoming effective on January 1, 2004. The Porter-Cologne Act establishes the State Water Resources Control Board (State Board), and the Regional Boards as the principle state agencies responsible for control of water quality. The Porter-Cologne Act empowers the Regional Boards to formulate and adopt, for all areas within the regions, a Water Quality Control Plan (Basin Plan) which designates beneficial uses and establishes water quality objectives. Further, the plan designates the Regional Boards with the authority to issue waste discharge requirements to regulate the discharge of waste to surface and ground waters of the state.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

- 1. Basin Plan.** On September 8, 1994 the Regional Board adopted a revised Water Quality Control Plan for the San Diego Basin [hereinafter Basin Plan] that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to Pacific Ocean are as follows:

Table III.C.1

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<u>Existing:</u> Industrial Service Supply (IND); navigation (NAV); contact water recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); preservation of biological habitats of special significance (BIOL); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); marine habitat (MAR); aquaculture (AQUA); migration of aquatic organisms (MIRG); spawning, reproduction, and/or early development (SPWN); shellfish harvesting (SHELL) <u>Intermittent:</u> None. <u>Potential:</u> None.

Chapter 3, Water Quality Objectives, on p. 3-4 of the Basin Plan specifically states that the Ocean Plan is incorporated into the Basin Plan for protection of the beneficial uses of the State ocean waters.

2. **Ocean Plan.** On November 16, 2000 the State Water Resources Control Board adopted a revised *Water Quality Control Plan for the Ocean Waters of California* (herein after, Ocean Plan). The revised Ocean Plan became effective on December 3, 2001. The Ocean Plan contains water quality objectives and beneficial uses for the ocean waters of California. The beneficial uses of State ocean waters to be protected are summarized below:

Table III.C.2

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<u>Existing:</u> Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting <u>Intermittent:</u> None. <u>Potential:</u> None.

In order to protect these beneficial uses, the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

3. **Thermal Plan.** The State Water Resources Control Board (State Board) adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.
4. **Anti-degradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an anti-degradation policy consistent with the federal policy. The State Board established California's anti-degradation policy in State Board Resolution 68-16, which incorporates the requirements of the federal anti-degradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The permitted discharge is consistent with the anti-degradation provision of 40 CFR §131.12 and State Board Resolution 68-16.
5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.
6. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires all NPDES permits to specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the boards to require technical and monitoring reports. The Monitoring and Reporting Program section establishes monitoring and reporting requirements to implement federal and State requirements.
7. **Previous Order.** Existing waste discharge requirements are contained in Order No. 2000-15, NPDES permit No. CA0107450, adopted by the Regional Board on February 9, 2000. Nearly all permit conditions (effluent limitations and other special conditions) established in the existing waste discharge requirements have been carried over to this permit.

D. Impaired Water Bodies on CWA 303(d) List

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Regional Board plans to develop and adopt TMDLs that will specify WLAs for point sources and load allocations (LAs) for non-point sources, as appropriate.

The USEPA has approved the State's 303(d) list of impaired water bodies. Certain receiving waters in the San Diego Region's watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2002 303(d) list and have been scheduled for TMDL development.

The 2002 State Board's California 303(d) List classifies certain portions of the Pacific Ocean Shoreline, Scripps Hydrologic Area as impaired for bacteria. The discharge point in the ocean is located in the Tourmaline Surf Park area, which is designated as impaired for bacteria on the 2002 303(d) list. Currently there is no proposed date for the TMDL completion for this receiving water body.

Because the discharge from this facility is comprised of municipal water, concentrated sodium chloride, magnesium ions, and calcium ions, the Regional Board believes this discharge is not likely to contribute to the bacterial impairment of the receiving water body.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, nonconventional, and toxic pollutants that are discharged into the waters of the United States. The control of the discharge of pollutants is established through effluent limitations and other requirements in NPDES permits. The CWA establishes two principal bases for effluent limitations. First, dischargers are required to meet, at a minimum, technology-based effluent limitations that reflect several levels of control that consider both technical factors as well as costs and economic impact. Second, they are required to meet any more stringent water quality-based effluent limitations (WQBELs) that are needed to protect applicable designated uses of the receiving water.

The following table contains the applicable effluent limitations established by the Order. The effluent limitations are based on the requirements of the 2001 Ocean Plan.

Table IV.1

Constituent	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous		Six-Month Median
					Minimum	Maximum	
Total Suspended Solids	mg/L	20	--	--	--	30	--
	lbs/day ¹	0.51	--	--	--	0.75	--
pH	standard units	--	--	--	6.0	9.0	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day ¹	0.63	1.0	--	--	1.88	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
Chronic Toxicity	TUc	--	--	1.0 ²	--	--	--
Chlorine, Total Residual	Mg/L	--	--	8.0	--	60	2.0
	Lbs/day ¹			0.0002		0.0015	0.00005

¹ Mass-based effluent limitations have been calculated based on a maximum flow value of 3,000 gpd.

² Daily maximum effluent limitation.

A. Technology-Based Effluent Limitations

1. Scope and Authority

The CWA requires that technology-based effluent limitations for existing, non-municipal discharges be established based on several levels of control:

- Best practicable treatment control technology (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.
- Best conventional pollutant control technology (BCT) is a standard for the control from existing industrial point sources of conventional pollutants BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result using a two-part cost test. The first part of the test compares the cost for private industry to reduce its discharge of conventional pollutants with the cost to publicly-owned treatment works for similar levels of reduction in their discharge of these pollutants. The second part of the test examines the cost effectiveness of additional industrial treatment beyond BPT.
- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BCT, BAT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 of the NPDES regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 C.F.R. § 125.3.

Section III.B. of the Ocean Plan establishes numerical effluent limitations for publicly owned treatment works and industrial discharges for which ELGs have not been established.

Order No. R9-2005-0007 includes effluent limitations for all pollutants listed in Table A of the Ocean Plan. The maximum effluent limitation values for grease and oil, settleable solids, turbidity, and pH are consistent with those specified in Table A of the Ocean Plan and the previous Order. The following are the effluent limitations established in Table A of the Ocean Plan:

Table IV.2

Pollutant	Unit	Monthly Average	Weekly Average	Instantaneous Maximum
Grease and Oil	mg/L	25	40	75
Settleable Solids	ml/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	Standard units	Within limit of 6.0 to 9.0 at all times		

Due to the lack of national ELGs for discharges from water softening operations and similar facilities the existing permit limitations based the Ocean Plan Table A effluent limitations serve as the equivalent of technology-based effluent limitations, in order to carry out the purposes and intent of the CWA. These limitations are carried over to this Order.

There are no established ELGs for TSS contained in softener resin backwash. The Ocean Plan does not provide a specific effluent limitation value for total suspended solids (TSS). However the Ocean Plan establishes a 30-day average percent removal requirement of 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, with the exception that this effluent limit not be below 60 mg/L. The previous permit established a monthly average effluent limitation of 20 mg/l and an instantaneous maximum effluent limitation of 30 mg/l. These effluent limitations were found to be protective of beneficial uses by the Regional Board, and the Discharger was able to demonstrate compliance with these effluent limitations. Further, these effluent limitations for TSS appear more stringent than the minimum TSS effluent limitation established in the Ocean Plan (60 mg/L). Thus, in compliance with Federal and State anti-backsliding regulations, the previous effluent limitations for TSS will be carried over to this Order.

Because of the small volume of the discharge, the Regional Board has no reason to believe the discharge will have a detrimental effect to the receiving water. Thus, a temperature effluent limitation has not been established in Order No. R9-2005-0007. Effluent sampling requirements for temperature have been established in Monitoring and Reporting Program R9-2005-0007. In the event that the Regional Board suspects that this discharge may cause detrimental effects to the receiving water, the Regional Board may require additional receiving water monitoring and establish an effluent limitation for temperature.

B. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR § 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses for the receiving water as specified in the Basin Plan and Ocean Plan, and achieve applicable water quality objectives and criteria (that are contained in other state plans and policies, or water quality criteria contained in the Ocean Plan).

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

In order to protect the beneficial uses established in the Ocean Plan and the Basin Plan (referenced in Part II.A of this Fact Sheet), the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

Table A of the Ocean Plan provides effluent limitations for conventional pollutants (including grease and oil, settleable solids, turbidity, and pH). Table B of the Ocean Plan list water quality objectives for pollutants for protection of marine aquatic life and human health (carcinogens and noncarcinogens).

Section 3 of the Thermal Plan specifies narrative waste discharge requirements for temperature into coastal waters.

3. Determining the Need for WQBELs

Section II.D. of the Ocean Plan establishes numeric water quality objectives for the protection of marine aquatic life and human health.

The Ocean Plan allows the use of a minimum probable initial dilution factor, D_m (expressed as parts seawater per part wastewater), for calculation of effluent limitations for the priority pollutant water quality objectives listed in Table B of the Ocean Plan. The Discharger did not apply for a dilution factor, nor did the previous permit establish a dilution factor. Thus, no additional dilution factor has been granted to the Discharger.

The discharge from Culligan is not expected to contain detectable levels of toxic metals, volatile organics, or other priority pollutants. Any fluctuations in the concentrations of these metals in the discharge would be a result of minor variations in the quality of the incoming City supply water.

Order No. R9-2005-0007 does not contain effluent limitations for individual metals and priority pollutants listed in Table B of the Ocean Plan (except chronic toxicity) since very insignificant levels of these pollutants are expected to be present in the discharge. This approach is consistent with the approach of the previous Order approved by the Regional Board and NPDES permits for other facilities in the San Diego Region. Monitoring and Reporting Program (MRP) No. R9-2005-0007, requires that the Discharger certify that these constituents are not present in the discharge in the annual reports.

4. WQBEL Calculations (Not applicable)

5. Whole Effluent Toxicity (WET)

Although the concentrations of individual metals and priority pollutants contained in the discharge are expected to be minimal, the additive effects of these chemicals may contribute to toxicity of the effluent. Order No. R9-2005-0007 includes discharge limitations and monitoring requirements for chronic Whole Effluent Toxicity (WET).

As part of the application, the Discharger has not submitted the acute toxicity monitoring data as required by Order No. 2000-15. The discharger is required to submit acute toxicity data as soon as it is available. The toxicity data will be reviewed and evaluated once it is received.

The previous Order established monthly average and instantaneous maximum acute toxicity effluent limitations of 1.5 (TU_a) and 2.5 (TU_a) respectively based on the 1997 Ocean Plan. The 1997 Ocean Plan was amended on November 16, 2000 and the 2001 Ocean Plan became effective on December 3, 2001. The amended Ocean Plan revised the previous acute toxicity water quality objectives and established a chronic toxicity water quality objective. The newly established Ocean Plan water quality objectives for acute and chronic toxicity are 0.3 (TU_a) (Daily Maximum) and 1.0 (TU_c) (Daily Maximum) respectively.

The previous permit established effluent limitations for acute toxicity. Order No. R9-2005-0007 replaces the previous acute toxicity effluent limitation with a chronic toxicity effluent limitation. The newly established chronic toxicity effluent limitation of 1.0 (TU_c) (Daily Maximum) is expected by the Regional Board to be at least as protective of water quality than the previous acute toxicity effluent limitations, and is consistent with Section III.C.3.c.4 of the Ocean Plan which specifies applicability for acute and chronic toxicity based on the minimum initial dilution factor.

The WET limit was calculated using Equations 1 and 2 of Section III.C.3 (Implementation Provisions for Table B) of the Ocean Plan, with a D_m value of 0.

Whole effluent toxicity (WET) requirement protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth, or other sub-lethal effects.

The 2001 Ocean Plan establishes numeric objectives for chronic toxicity in Section II.D., Table B, with a chronic toxicity daily maximum effluent objective of 1.0 (TU_c). Based on the fact that minimal initial dilution has not been determined and no dilution credits have been allowed for this discharge the Discharger shall meet the chronic toxicity effluent limitation prior to discharge into the receiving water.

Chronic toxicity is to be calculated using the following formula:

$$TU_c = \frac{100}{NOEL}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix II of the 2001 Ocean Plan.

If toxicity effluent limitations established in the Order are exceeded, then, within 15 days of the exceedance, the Discharger shall begin conducting six additional toxicity tests over a six-month period and provide the results to the Regional Board. If the additional monthly toxicity tests indicate that toxicity effluent limitations are being consistently violated, the Regional Board may require the Discharger to complete a toxicity reduction evaluation (TRE) and Toxic Identification Evaluation (TIE).

C. Final Effluent Limitations

Section 402(o) of the Clean Water Act and 40 CFR 122.44(I) require that effluent limitations standards or conditions in reissued permits be at least as stringent as those in the existing permit.

Order No. R9-2005-0007 includes effluent limitations for all pollutants listed in Table A of the Ocean Plan. The maximum effluent limitation values for grease and oil, settleable solids, turbidity, and pH are consistent with those specified in Table A of the Ocean Plan and the previous Order. Thus, effluent limitations for grease and oil, settleable solids, turbidity, and pH have been carried over from the previous Order.

The Ocean Plan does not provide a specific effluent limitation value for total suspended solids (TSS). Thus, in compliance with State and Federal antibacksliding and antidegradation policies, and based on BPJ, the previous permit effluent limitation for TSS was carried over.

An effluent limitation for chronic toxicity has been established in compliance with Section II.D., Table B of the 2001 Ocean Plan. Further, the elimination of the effluent limitation for acute toxicity is in compliance Section II.D., Table B of the current Ocean Plan.

Section III.C.3.j of the Ocean Plan specifies that effluent limitations shall also be expressed in terms of mass emission rate limits. Mass emission limitations are established utilizing the following formula:

$$\text{Lbs/day} = 0.00834 \times \text{Ce} \times \text{Q}$$

where:

Ce = the effluent concentration limit, ug/l.

Q = flow rate, million gallons per day (MGD).

In compliance with the procedures specified in the Ocean Plan and outlined in this Fact Sheet, the following water quality-based effluent limitations have been established in the proposed Order:

D. Summary of Effluent Limitations

Outfall **001** -- Monitoring Location **001**
Table IV.D

Constituent	Units	Monthly Average	Weekly Average	Instantaneous Maximum	Rationale
Grease and Oil	mg/L	25	40	75	Ocean Plan
	Lbs/day ¹	0.001	0.002	0.003	
Total Suspended Solids (TSS)	mg/L	20	--	30	Previous Order
	Lb/day ¹	0.001	--	0.001	
Settleable Solids	ml/L	1.0	1.5	3.0	Ocean Plan
Turbidity	NTU	75	100	225	Ocean Plan
Ph	pH units	Within limit of 6.0 to 9.0 at all times			Ocean Plan
Chronic Toxicity	TUc	1.0 ²			Ocean Plan

¹ Mass-based effluent limitations have been calculated based on a maximum flow value of 3,000 gpd.

² Daily maximum effluent limitation.

E. Interim Effluent Limitations (Not Applicable).

F. Pond Discharge Specifications (Not Applicable).

G. Land Discharge Specifications (Not Applicable).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Section II of the Ocean Plan specifies water quality objectives for ocean waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. Additional receiving water limitations are specified in Section III of the Ocean Plan.

A. Surface Water

The discharge of waste through Outfall 001 shall not cause violation of the Ocean Plan ocean water quality objectives. Compliance with the water quality objectives shall be determined, if needed, from samples collected at stations representative of the area determined by the Regional Board to be affected by the discharge.

B. Groundwater (Not Applicable)

VI. MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the boards to require technical and monitoring reports. Monitoring and Reporting Program No. R9-2005-0007 establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in Monitoring and Reporting Program for this Facility.

A. Effluent Monitoring

The previous monitoring and reporting program (M&RP) No. 2000-15 for Culligan Water Conditioning of La Jolla, Inc. required flow monitoring for each discharge and semiannual monitoring for settleable solids, suspended solids, grease and oil, conductivity, pH, and turbidity. In addition, acute toxicity monitoring was required once in five years.

Order No. R9-2005-007 requires daily flow monitoring for each discharge event; quarterly monitoring for pH and Total Residual Chlorine, semiannual monitoring for settleable solids, suspended solids, grease and oil, conductivity, and turbidity; and requires chronic toxicity monitoring twice over the five year permit period. Chronic toxicity shall be monitored one time during the first twelve months after adoption and once prior to submittal of the permit renewal application (due 180 days prior to expiration of the permit) and the data submitted with the application.

An accelerated monitoring program for pH has been established based on previous exceedances of effluent limitations. The Discharger shall monitor pH weekly for the first 12 weeks after the effective date of the permit. pH monitoring shall revert to semi-annual after 12 consecutive weeks of compliance with the pH effluent limitations. If a pH violation is observed after the monitoring program has reverted to semi-annual, pH monitoring shall revert back to weekly until 12 consecutive weeks of compliance are demonstrated again.

An accelerated monitoring program for total residual chlorine has been established based on that fact that chlorine is toxic to aquatic life and is believed to be a pollutant of concern for this discharge. Monitoring for total residual chlorine shall be conducted monthly for the first 6 months after the effective date of Order No. R9-2005-0007. After the first 6 months, monitoring for total residual chlorine shall be conducted semi-annually.

The acute toxicity monitoring requirement of once during the permit term has been removed due to the replacement of the acute toxicity effluent limitation with a chronic toxicity effluent limitation. In order to determine compliance with the new chronic toxicity effluent limitation, chronic toxicity monitoring has been established for a minimum frequency of once during permit term.

Monthly monitoring for temperature has been established to help determine the need for thermal effluent limitations in the future.

Effluent monitoring requirements of MRP No. R9-2005-0007 are summarized in the following table. MRP No. R9-2005-0007 should be consulted for greater detail regarding specific monitoring requirements.

Table VI.A.

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Flow	GPD	Estimate	Daily	¹

Temperature	°F	Grab	Monthly	¹
PH	pH units	Grab	Quarterly ³	¹
Chlorine, Total Residual	mg/L	Grab	Quarterly ⁴	¹
Grease and Oil	mg/L	Grab	Semi-annual	¹
	Lbs/day ²	Calculated		
Total Suspended Solids (TSS)	mg/L	Grab	Semi-annual	¹
	Lb/day ²	Calculated		
Settleable Solids	ml/L	Grab	Semi-annual	¹
Turbidity	NTU	Grab	Semi-annual	¹
Conductivity	µmhos/cm	Grab	Semi-annual	¹
Chronic Toxicity	TUc	Grab	Twice over the term of the permit. ⁵	Please see section IV of this M&RP.

¹ All parameters shall be analyzed by the methods specified in 40 CFR 136.3.

² Lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{Lbs/day} = 0.00834 \times \text{Ce} \times \text{Q}$$

where:

Ce = the effluent concentration limit, µg/l.

Q = flow rate, million gallons per day (MGD)

³ pH monitoring shall be conducted weekly for the first 12 weeks following the effective date of Order No. R9-2005-0007. If pH effluent limitations contained in Order No. R9-2005-0007 are exceeded more than 6 times in the initial 12 week period, the Discharger shall conduct a special study to determine the cause of the pH exceedances and determine effective methods to comply with the pH effluent limitation contained in Order No. R9-2005-0007. pH monitoring shall revert to quarterly after 12 consecutive weeks of compliance with the pH effluent limitations. If a pH violation is observed after the monitoring program has reverted to semi-annual, pH monitoring shall revert back to weekly until 12 consecutive weeks of compliance are demonstrated again.

⁴ Monitoring for total residual chlorine shall be conducted monthly for the first 6 months after the effective date of Order No. R9-2005-0007. After the first 6 months, monitoring for total residual chlorine shall be conducted quarterly.

⁵ Chronic Toxicity monitoring shall be conducted twice during the five year term of the permit. The Discharger must monitor during the first twelve months after adoption, and the results are due with the next semiannual report; the Discharger shall also monitor again in year four of the permit term and shall submit the results are due no later than 180 days prior to the expiration date of the permit.

All monitoring procedures (including whole effluent toxicity testing procedures) must be in accordance with the monitoring procedures specified in Appendix III, Standard Monitoring Procedures, of the Ocean Plan.

B. Receiving Water Monitoring

Receiving water monitoring is not required under the provisions of this Order unless required later by the Regional Board.

VII. RATIONALE FOR SPECIAL PROVISIONS

A. Re-Opener Provisions

1. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge by the Regional Board.

2. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
3. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new MLs.
4. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the Pacific Ocean.
5. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Board, to provide for dilution credits or a mixing zone, as may be appropriate.
6. This Order may be reopened and modified to revise the toxicity language once that language becomes standardized.
7. This Order may also be reopened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

VIII. ADDITIONAL MONITORING REQUIREMENTS AND SPECIAL STUDIES

Core monitoring consists of effluent monitoring, influent monitoring and receiving water monitoring. This Order does not require influent or receiving water monitoring at this time.

The discharger shall participate and coordinate with state and local agencies and other dischargers in the San Diego Region in development and implementation of a regional monitoring program as directed by the Regional Board. The intent of a regional monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region. During a coordinated ocean sampling effort, the discharger's monitoring program effort may be expanded to provide a regional assessment of the impact of discharges to the receiving water.

Special studies are intended to be short-term and designed to address specific research or management issues that are not addressed by the routine core monitoring program. The discharger shall implement special studies as directed by the Regional Board.

As discussed in section II.D. of this Fact Sheet, data submitted to the Regional Board in accordance with the previous Monitoring and Reporting Program indicates two pH effluent limitation violations of Order No. 2000-15. Thus, an accelerated pH monitoring study has been established for the first twelve weeks after the effective date of Order No. R9-2005-0007. If the Discharger exceeds pH effluent limitations for 6 or more of the pH sampling events during the initial 12 week period, the Discharger is required to conduct a study to determine the cause

of the pH exceedances. Further, the study must include the consideration of economically and effective methods to comply with the established pH effluent limitations contained in Order No. R9-2005-0007.

The source water for the discharge is from a municipal water supply, thus the source water is expected to contain chlorine. Chlorine is known to be toxic to aquatic life. Residual chlorine data for this discharge is not available, thus an accelerated monitoring program has been established for total residual chlorine. If the Regional Board determines the effluent from the Discharger may cause detrimental effects on the receiving water, receiving water monitoring may be required.

A. Best Management Practices and Pollution Prevention (Not Applicable).

B. Compliance Schedules (Not Applicable).

C. Construction, Operation, and Maintenance Specifications (Not Applicable)

IX. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, San Diego Region (Regional Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Culligan Water Conditioning of La Jolla, Inc. As an initial step in the WDR process, the Regional Board staff has developed tentative WDRs. The Regional Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Board has notified the permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the San Diego Union Tribune newspaper no less than 30 days prior to the scheduled hearing of February 9, 2005.

B. Written Comments

Interested persons are invited to submit written comments upon these draft waste discharge requirements. Comments should be submitted either in person or by mail, during business hours to:

John H Robertus, Executive Officer
Attn: Industrial Compliance Unit
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123

To ensure that the Regional Board has the opportunity to fully study and consider written material, comments regarding Order No. R9-2005-0007 should be received in the Regional Board's office no later than 5:00 PM on January 26, 2005. Written material submitted after 5:00 PM on February 2, 2005 will not be provided to the Regional Board members and will not be considered by the Regional Board. Oral comments will be received at the hearing on February 9, 2005.

C. Public Hearing

In accordance with 40 CFR 124.10, the Regional Board must issue a public notice whenever NPDES permits have been prepared, and that the tentative permits will be brought before the Regional Board at a public hearing. The public notice has been published in San Diego Union Tribune no less than 30 days prior to the scheduled public hearing. Order No. R9-2005-0007 will be considered by the Regional Board at a public hearing beginning at 9:00 am on February 9, 2005. The location of this meeting is as follows:

Date: February 9, 2004

Time: Start time 9:00 a.m.

Location: **Regional Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, California 92123**

D. Information and Copying

For additional information, interested persons may write the following address or contact Tony Felix of the Regional Board by e-mail at TFelix@waterboards.ca.gov or by phone at (858) 636-3134.

Regional Water Quality Control Board, San Diego Region
Attn: Industrial Compliance -- Tony Felix
9174 Sky Park Court, Suite 100
San Diego, California 92123

Copies of the applications, NPDES waste discharge requirements, and other documents (other than those that the Executive Officer maintains as confidential) are available at the RWQCB office for inspections and copying according to the following schedule (excluding holidays):

Monday and Thursday:	1:30 pm to 4:30 pm
Tuesday and Wednesday:	8:30 am to 11:30 am 1:30 pm to 4:30 pm
Friday:	8:30 am to 11:30 pm

An electronic copy of the Fact Sheet and Order can be accessed on the Regional Board website: <http://www.waterboards.gov/sandiego/>.

E. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding this tentative WDR/NPDES permit should contact the Regional Board staff identified above, reference this facility, and provide a name, address, and phone number.

Any person interested in subscribing to the San Diego Regional Board's electronic mailing list may register at the Regional Board's website:

http://www.swrcb.ca.gov/rwqcb9/misc/mailling_lists.html